

P a t e n t C l a i m s :

1. A mobile station adapted to be used in a radio commu-
 5 nications system, said mobile station including:

receiver means (212) adapted to receive blocks of dis-
 torted information bits at a first rate, and

10 first detecting means (206) adapted to detect information
 bits from said distorted information bits,

c h a r a c t e r i z e d by further including

15 second detecting means (213) adapted, when the quality of
 said received blocks of information bits is above a given
 level, to detect information bits from said distorted in-
 formation bits using fewer computation resources than
 said first detecting means (206), and

20 estimation means (211) adapted to estimate the quality of
 one or more of said received blocks of information bits
 and, based thereon, to determine whether to use said
 first or said second detecting means when detecting in-
 25 formation bits.

2. A mobile station according to claim 1, c h a r -
 a c t e r i z e d in that said mobile station is
 adapted, when operated in a first mode in which said re-
 30 ceived blocks of information bits are received at said
 first rate and said first detecting means (206) is used,
 and when said estimated quality is above a predetermined
 first threshold, to change to a second mode of operation
 in which said blocks of information bits are received at
 35 said first rate and said second detecting means (213) is
 used.

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3. A mobile station according to claim 2, c h a r -
a c t e r i z e d in that said mobile station is
adapted, when operated in said first mode or said second
5 mode and when said estimated quality is above a predeter-
mined second threshold, to change to a third mode of op-
eration in which said blocks of information bits are re-
ceived at a second rate higher than said first rate and
said second detecting means (213) is used.

10 4. A mobile station according to claim 3, c h a r -
a c t e r i z e d in that said mobile station is
adapted, when operated in said third mode and when said
estimated quality is below a predetermined third thresh-
15 old, to change to said second mode of operation.

20 5. A mobile station according to claim 3, c h a r -
a c t e r i z e d in that said mobile station is
adapted, when operated in said second mode or said third
mode and when said estimated quality is below a predeter-
mined fourth threshold, to change to said first mode of
operation.

25 6. A method of transmitting information from a first
communications device to a second communications device
in a radio communications system, said method including:

30 receiving, in said second communications device, blocks
of information bits, transmitted at a first rate from
said first communications device to said second communi-
cation device via a communications link, as blocks of
distorted information bits, and

35 performing a first detection of information bits from
said distorted information bits,

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c h a r a c t e r i z e d by further including:

estimating the quality of one or more of said distorted blocks of information bits, and, based thereon, determining whether to perform said first detection or, when the quality of said received blocks of information bits is above a given level, to perform a second less computation-demanding detection of information bits from said distorted information bits.

7. A method according to claim 6, c h a r a c t e r - i z e d in that said second detection is performed when said estimated quality is above a predetermined first threshold.

8. A method according to claim 7, c h a r a c t e r - i z e d in that, when said blocks of information are received at said first rate and when said estimated quality is above a predetermined second threshold, said mobile station requests said base station to transmit said blocks of information at a second rate higher than said first rate.

9. A method according to claim 8, c h a r a c t e r - i z e d in that, when said blocks of information are received at said second rate, and when said estimated quality is below a predetermined third threshold, said mobile station requests said base station to transmit said blocks of information at a third rate lower than said second rate.

10. A communications system including at least one base station and at least one mobile station, wherein

said base station is adapted to transmit blocks of information bits at a first rate to said mobile station via a communications link, and

5 said mobile station includes receiver means (212) adapted to, as a result of said transmission, receive said transmitted blocks of information bits as blocks of distorted information bits, and includes first detecting means (206) adapted to detect information bits from said distorted information bits,
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c h a r a c t e r i z e d in that said mobile station further includes

15 second detecting means (213) adapted, when the quality of said communication link is above a given level, to detect information bits from said distorted information bits using fewer computation resources than said first detecting means (206), and

20 estimation means (211) adapted to estimate the quality of said communications link and, based thereon, to determine whether to use said first or said second detecting means when detecting information bits.

25 11. A system according to claim 10, c h a r a c -
t e r i z e d in that said mobile station is adapted to use said second detecting means (213) when said estimated quality is above a predetermined first threshold.

30 12. A system according to claim 10, c h a r a c -
t e r i z e d in that said mobile station is adapted, when said estimated quality is above a predetermined second threshold, to allow said base station to transmit
35 said blocks of information at a second rate higher than said first rate.

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13. A system according to claim 10, c h a r a c t e r -
i z e d in that said mobile station is adapted, when
said blocks of information are received at a second rate
5 and when said estimated quality is below a predetermined
third threshold, to request said base station to transmit
blocks of information at a first rate lower than said
second rate.
- 10 14. A system according to one or more of claims 10-13,
c h a r a c t e r i z e d in that said system is a
TDMA system, and said blocks of information are time-
slots.

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